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Water Conflict Between the US and Mexico: Lining of the All-American Canal

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Introduction

In recent years the media have been persistently talking about the possibility of conflicts, even wars, sparked by regional or international disputes over the control of and access to water. This renewable, but scarce, natural resource has been under intense pressure as demand increases At the same time, the eco-systems that produce fresh water have been altered or destroyed, while surface and groundwater have suffered severe ecological damage from pollution caused by urban systems and commercial agriculture.

Growing demand, both present and projected, has evidenced regional and international conflicts in which those involved seek to ensure access to water, following the perspectives determined by cyclical shortages attributable to droughts. The backdrop is formed by the naturally limited availability of water in the arid regions of the world (Cortez, Whiteford and Chávez, 2005).

Mexico is no stranger to such conflicts, since arid conditions that limit water availability are present on two thirds of the nation's territory. At the same time, most of the surface water available in the basins (the Rio Grande -- Rio Bravo in Spanish -- the Colorado river and Tijuana) located in states near the US border is distributed in accordance with a legal framework agreed between the two countries in the 1906 Convention and the 1944 Treaty.

So far these international treaties between the two countries have led to accords and reasonable solutions in moments of crisis with a potential for conflict, though controversy is sure to persist, as are their fairness and justice.

This paper focuses on the paving of the All-American Canal (AAC) in California, right on the border with Mexico and near the city of Mexicali. This is one of the most recent and serious water conflicts between the two countries. In a sense, it amounts to a conflict that resembles the bilateral relationship in that it gets to the heart of competition to ensure a portion of water of a very high value in a regional context. Paradoxically this occurs in a parallel fashion to major advances in binational cooperation on environmental issues.

From our point of view, the manner in which the conflict over the lining of the AAC has been approached, has major repercussions for the future of water management along the border between Mexico and the United States since it marks the beginning of a tendency in the resolution of controversies that arises as a result of sharing the water of the region and its management.

Background

The AAC began operations in 1940 as part of a decision by the US government to gain full control of the water infrastructure that supplies the Imperial Irrigation District, the largest in the US. Before the AAC was built, the water flowed through the Alamo Canal as it followed the natural slope to the Imperial Valley. Attempts to divert the flow to the US side were hindered by a large area of sand dunes, while efforts by private companies to open feeder canals proved extremely costly.

Washington's decision illustrates the vision of national security that has been present since the beginning of the last century when problems emerged due to floods of the canals, but it gained strength in the 1930s as a reaction to Mexican nationalism and the agrarian movement that led the Mexican government to expropriate land throughout the country .

The AAC transports water to the Imperial Irrigation District, extending 137 kilometres (85 miles) along the Mexican border. As a result, part of the water that carries seeps through the subsoil following the natural downward slope to feed the Mexicali aquifer on the Mexican side of the border, representing a major source of water for the farmers. This was highlighted during the 1960s by the salinity crisis that affected land in the Mexicali Valley (Mumme, 2004). It appears that it was at this time that the idea emerged of recovering the water that filtered through the sandy soil in the United States. Matters made headlines in the 1980s, when southern California increased the pressure for water conservation in response to the Department of the Interior request to use only its share of the Colorado water while stopping the utilization of those resources that belonged to Arizona and Nevada.

In effect, it was during the 1980s that proposals to line the All-American Canal first appeared as a means of halting the seepage. The Mexican government, through the US-Mexico International Boundary and Water Commission (IBWC), responded by seeking negotiations on the issue on the grounds that Mexico had established a beneficial use of the water that gave it user rights. The upstream users disagreed and, through the US Bureau of Reclamation, proposed options to claim the water in question (Mumme, 2004). In 1988, the US Congress passed Bill 100-675, which authorised the Secretary of the Interior to order the necessary works for the lining of the All-American Canal in the Imperial Valley (Castro, 2004). More recently, an environmental impact study required by US law recommended the construction of a second, 37 kilometre (23 miles) cement-lined canal to run parallel to the AAC, authorizing 83.5 cubic metres (2,950 cubic feet) of water.

The urgency of the measure derives from the deadline that the Department of the Interior set for the state of California. By 2010, the state has to reduce its dependence on water from the Colorado river, using no more than its annual share of 54.3 billion cubic metres (4.4 million acre-feet). As a result, California will have to impose water-saving measures in order to reduce consumption by 1.5 billion cubic metres (1.22 million acre-feet).

Position of the Mexican Government

The US decision to pave the AAC to recover the water that seeps through its sandy subsoil is based on the supposition that the water is US property, and corresponds to California's share from the Colorado; the AAC is in US territory and Washington has taken a sovereign decision to line it with the aim to make more water available.

For its part, the Mexican government bases its case on the principle that the Mexicali Valley farmers have established a beneficial use of the water in dispute, so giving them rights to it under international law. At the same time, the Mexican government invokes the text of Resolution 242 of the IBWC that solved the salinity crisis in the Mexicali

Valley. The resolution, as a means of avoiding problems in the future, obliges the two governments to consult each other before undertaking any future project involving surface or groundwater that could adversely affect the other country.

In the specific case of the AAC , the Mexican government argues that there has been no consultation, while Washington insists that it notified Mexico of its intention to undertake the project. In this sense, what looks like a semantic problem is simply a way of covering up the unilateral nature of the decision, and the failure to consider its potential impact south of the border.

Although the US decision to pave the AAC was informed to our country in 1976, the Mexican government maintained an attitude of caution while rejecting the measure. The Mexican Senate, however, has been more active in its reaction. The Senators for Baja California have played a key role in drawing the Foreign Ministry's attention to take a firm stance in its dealings with the US government in relation to this issue (Sánchez, 2004).

Thanks to the Mexican government's low profile, some negotiations got under way though the IBWC, with the Mexican side taking a realistic attitude based on its conclusion that the US decision was irreversible, despite the possibility to introduce bargaining chips that would soften the impact, if only partially. The discussion began to centre on the quality of water that Mexico receives in the area and the use of the AAC to take water to another point within Mexico, thus allowing it to continue to feed the Mexicali aquifer a measure that would reduce the flow and the impact on the affected zone. Another issue introduced was the generation of electricity by Mexico, using the canal in a way similar to that used by the United States for some time .

From 2000 the talks have been deadlocked, due mainly to the expectations of the Federal administration that took over in Mexico on the assumption that the democratic legitimacy gained when taking power gave it a greater advantage than its predecessors in establishing the bases for negotiation on issues from the bilateral agenda. The issue of the lining of the AAC was taken out of the ambit of the IBWC and raised to the highest diplomatic level, with the aim of direct negotiations between the Foreign Ministry and the US Department of State. At the same time, it was never a priority for the Mexican government, for whom migration has been the main issue in the bilateral agenda. The appearance of the AAC on that agenda was the result of pressure brought by Texas on Mexico to pay its historic water debt in the Rio Grande basin. That gave Mexico the opportunity to bring the AAC into the debate at the North American security meeting held in Waco, Texas in May 2005. To date, however, no progress has been reported in the negotiations between the two governments at top diplomatic level.

Matters complicated even more because the Government of California has made progress with internal accords to transfer the water saved by the lining project. There are now agreements with the Imperial Irrigation District for the lining of canals, in exchange for a contract -- which has already been signed -- to transfer the water saved to the urban areas of southern California over the next 110 years. In other words, more players are now involved, complicating more the possibility of a solution favourable to Mexico.

Impact on Mexico of the lining of the AAC

The rejection by the Mexican government of the plan to line the AAC is not only based on the legal principles established by the 1944 Water Treaty on the distribution and management of the water of the cross-border basins shared by the two countries . Evidence from studies on the likely effects to the Mexican side point clearly to four types of impacts: the availability of groundwater in an agricultural zone next to the border; water quality in the region; the natural environment of the Mexicali Valley and the Colorado Delta; and the economy of an important group of farmers in Mexicali, some of them under the land ownership known as the *ejido* system (the collective units of land ownership that emerged from the Mexican Revolution at the beginning of the last century).

On the question of water availability, it is pretty obvious that the lining of the canal, or the construction of a new lined canal, will halt the seepage of water to the subsoil that existed since the construction of the original AAC. It is not, however, the only source that feeds the aquifer: the Colorado River supplies it by means of a dynamic network of underground flows. Estimates of the water that would be lost by the lining of the AAC run to 80 million cubic metres (approximately 65,000 AF) a year.

The water that seeps from the AAC into the aquifer is, on the other hand, regarded of high-quality in terms of total dissolved solids, PH and electrical conductivity (Herrera et al, 2004). At the same time, given the concentration of soluble salts in the waters of the Colorado that are deposited in the soil of the Mexicali Valley, any of the two alternatives mentioned do not only imply a loss in water volume as a result of less seepage. It also means a higher concentration of soluble salts in the water that remains available due to a drop in the volume required to dilute them. In turn, that will affect the various crops grown in the area, where irrigation is based on groundwater deposits fed by the AAC (García et al, 2004).

The likely impact has not been established in economic terms, though it is important to note that the land irrigated by pumped groundwater is assigned to commercial crops that are highly profitable both on domestic and foreign markets.

Information on the extent of the area irrigated by groundwater associated with seepage from the AAC is inaccurate, or rather contradictory, since the information varies in accordance to whomever provides it. Published articles by Douglas Hayes and Jesús Román point to an area of 13,500 hectares, while Julio Navarro speaks of 19,200. The IBWC refers to 1,200 hectares while Senators Corella and Alvarez mention 9,200 hectares (Sánchez, 2004). At the same time, the authorities refer to the effects that the lining of the AAC will have on the families of some 1,200 farmers .

One of the most noteworthy aspects of the project has to do with its likely impact on the environment. The environmental impact study ordered by the US Bureau of Reclamation was developed with reference only to the US border; no consideration at all was given to the Mexican side as likely to be affected. So far the only study made to estimate the environmental impacts of the project on the Mexican side was carried out by the Sonoran Institute and the NGO PRONATURA, at the request the Department of Ecology of the Government of Baja California. The results indicate that the loss of water would have a negative impact on an important system of wetlands, the riparian

vegetation of the Colorado below the Parker Dam and, indirectly on a number of animal species, mainly migratory birds that use these areas as way-stations. Some of the region's endemic species are catalogued by both countries as having special protection status, at federal level and in the legislation of the state of California. It is important to note, too, that the surface area which ecology is deemed likely to be damaged according to the Bureau of Reclamation study represents only a third of what will be negatively affected on the Mexican side (Sonoran Institute/PRONATURA, 2005).

Binational Cooperation on the Environment of the Region

All that has been said about the project to line the AAC seems paradoxical when we consider the cooperation on environmental issues that has built up in recent years between the two nations in dispute over the canal. As a result of the environmental institutions that emerged from the North American Free Trade Agreement (NAFTA), society at large and the governments of both countries found common ground in cooperation aimed at conservation, the protection of species, and the need to clean up the border in terms of the development of sanitary infrastructure and wastewater treatment.

Various agreements were reached within the IBWC on cooperation to solve different aspects related to the river basins included in the 1944 Water Treaty. On the Colorado River for example, Resolutions 241 and 142 set the basis for solving the salinity problem that affected the Mexicali Valley in the 1960s and until 1973. Resolutions 264 and 288 established commitments on the development of programs aimed at cleaning up the border, basically with regard to the New River that runs from Mexicali to the United States through the Imperial Valley region. Resolution 291 sets commitments to deal with the problem of sedimentary deposits on the Colorado River bed, which also affected the urban distribution network and the irrigated zone of the Mexicali Valley during the floods of 1993. In more recent times Resolution 306 in 2000 set initial commitments for the development of studies that will lead to recommendations on the environmental conservation of the riparian ecology and the estuary formed by the Colorado and its delta. Resolution 311 of February 2005 established a commitment to construct a wastewater treatment plant in Tijuana that will facilitate the advanced secondary treatment that the city's current International Wastewater Treatment Plant has been unable to achieve. The project and its operation during 20 years are to be financed with funds provided by the US government .

This phase of binational cooperation, however, is notable for the absence of an overall vision of water-related problems and for the lack of coherence in defining the region's environmental problems, all of which translates into policies and projects that have no connection to each other. (Sánchez, 2004).

Conclusions

The decision by the United States to pave the AAC provides us with some lessons that will have to be taken into account in the future. The first is that the conflict clearly indicates the absence of a binational accord on the groundwater located in the border aquifers, and the urgency of setting up negotiations to establish one. An accord would not in itself avert the conflict, but at least it would set up an institutional framework capable of resolving any controversies that might arise in the future. At the same time, it

is important to highlight the low profile that the Mexican government has maintained on the issue and the absence of information provided to those most directly involved, be they farmers, local governments or the Mexican Senate itself.

The Mexican government has been unable to identify opportunities, and has lacked any strategy to win allies within the United States, mainly those communities with the sensitivity to environmental issues. The current government of Baja California has shown the most interest in generating information for the community. In recent months the business leaders of the Mexicali Economic Development Committee have become actively involved, all of which shows the lack of knowledge and the foot-dragging on the issue in Mexico, within both the government and society at large. Widespread ignorance continues to prevail in Mexico about the ways water management are organized and operated in the United States, with no knowledge of the role that the states or the interest groups involved play in water policy. Finally, it is quite clear that, amid efforts to secure control over water in areas of relative scarcity such as the borderlands between Mexico and the United States, any other interest is of not importance to the party that takes the initiative and decides to make the water its own. The quest for, and perseverance on, binational cooperation as a feasible and more equitable means of resolving disputes remains, however, to be of essential importance.

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